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| EXAMINER | |
|---|---|
| HERNANDEZ, NELSON D | |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/776,447 | LEE, HYUNG-GUEN | |
| | Examiner | Art Unit | |
| | Nelson D. Hernández Hernández | 2622 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *12 May 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☐ Claim(s) *1,2,4-14 and 16-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4,5,7,9-14,16,17,19 and 21-27* is/are rejected.

7)☒ Claim(s) *6,8,18 and 20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Amendment*

1. The Examiner acknowledges the amended claims filed on May 12, 2008. **Claims 1, 2, 13, 14, 25 and 26** have been amended. **Claims 3 and 15** have been cancelled.

### *Response to Arguments*

2. Applicant's arguments with respect to **claims 1, 13 and 15** have been considered but are moot in view of the new grounds of rejection.

3. The Applicant further argues the following:

a. In addition, please note that the use of U.S. Patent No. 5,668,932 to Laney (hereafter referred to as "Laney") for any rejection of the claims under 35 U.S.C. § 103(a) is not appropriate because claims 1, 13, and 25 still recite that the virtually filtered luminance is determined from a first processing of the region of pixel data and without using other pixel data for a pixel location within the region, and that the reference luminance is determined for the pixel location from a second processing of the same region of pixel data and without using other pixel data.

The Examiner is respectfully reminded of the MPEP, §2141.03(VI) which states "PRIOR ART MUST BE CONSIDERED IN ITS ENTIRETY, INCLUDING DISCLOSURES THAT TEACH AWAY FROM THE CLAIMS."

However, Figure 13 of Laney teaches using a cell from a previous image frame (see step 116 in the flow-chart of Figure 13 of Laney) for determining whether a cell of a current image frame should be designated a "skip cell" during image data compression. Thus, Laney uses other pixel data (i.e. of the previous image frame) from the cell pixels of the current image frame.

The Examiner recites Figures 2-4 and col. 1, line 31 to col. 2, line 24 of Laney. However, note that Figures 2-4 and col. 1, line 31 to col. 2, line 24 are for just describing the Prior Art to Laney. Thus, Laney views such Prior Art teachings as being disadvantageous and deficient by stating that the object of Laney is to improve upon such a prior art pixel data compression technique by using cells of a previous image frame when compressing pixel data of a current image frame. Thus, Laney touts using other pixel data aside from just the pixels of a cell of a current image frame by also using a cell of a previous image frame.

Thus, Laney teaches away from determining the virtually filtered and references luminances with just the region of pixel data from the image sensor without using other pixel data by touting use of pixel cells from a previous image frame when compressing image data for a current image frame.

Accordingly, Laney is not appropriate prior art for rejection of any claims under 35 U.S.C. § 103(a) since all of the claims include the base limitations of independent claims 1, 13, and 25.

- The Examiner disagrees. Although the Examiner understands that Laney reference main invention is for an improvement of the prior art discussed in

Laney. The Examiner used said prior art of Laney's invention as grounds for rejections in the previous Office Action and not the main invention in Laney on the detailed description, since the background of the Laney reference presented subject matter relevant to the invention claimed in this Application and the fact that the prior art to Lenys invention appears to be "*disadvantageous and deficient by stating that the object of Laney is to improve upon such a prior art pixel data compression technique by using cells of a previous image frame when compressing pixel data of a current image frame*", the prior art does not invalidate the fact that the claim limitations are disclosed in the reference. See MPEP, 2123 § [R-5]. Therefore, the Examiner understands that although Laney's main invention may teach away from the limitations as claimed, the background art in Laney reference as applied in the Office Action teaches the claimed limitations, and thus the Laney reference is appropriate for the rejections made under 35 U.S.C. § 103(a).

- MPEP, 2123 § [R-5] states:

**2123 [R-5] Rejection Over Prior Art's Broad Disclosure Instead of Preferred Embodiments**

I. PATENTS ARE RELEVANT AS PRIOR ART FOR ALL THEY CONTAIN

"The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain." In re Heck, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983)

(quoting In re Lemelson, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)).

A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art, including nonpreferred embodiments. Merck & Co. v.Biocraft Laboratories, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989). See also > Upsher-Smith Labs. v. Pamlab, LLC, 412 F.3d 1319, 1323, 75 USPQ2d 1213, 1215 (Fed. Cir. 2005) (reference disclosing optional inclusion of a particular component teaches compositions that both do and do not contain that component);< Celeritas Technologies Ltd. v. Rockwell International Corp., 150 F.3d 1354, 1361, 47 USPQ2d 1516, 1522-23 (Fed. Cir. 1998) (The court held that the prior art anticipated the claims even though it taught away from the claimed invention. "The fact that a modem with a single carrier data signal is shown to be less than optimal does not vitiate the fact that it is disclosed.").

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

**5. Claims 1, 2, 13, 14, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Acharya, US Patent 6,269,181 B1 in view of Sasaki et al. 5,581,298.**

**Regarding claim 1**, if the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction. The claim preamble must be read in the context of the entire claim. Therefore the intended use "for luminance noise filtering" was not considered as a limitation since is stated as an intended use in the preamble (the claims merely claims determining luminance values but does not goes into any details of luminance noise filtering). See MPEP § 2111.02.

Acharya discloses a method for luminance noise filtering, comprising: inputting a region of pixel data from an image sensor (Acharya discloses the use of a digital camera 330. This inherently discloses the use of an image sensor since and image sensor is expected to be present in a digital camera. See col. 6, lines 34-46; col. 8, lines 47-64); determining a virtually filtered luminance from a first processing of said

region of pixel data and without using other pixel data for a pixel location within the region (Acharya discloses calculating a median of the luminance of the pixels in a block of pixels surrounding a particular pixel to be calculated; col. 4, line 19 – col. 5, line 46; col. 6, line 34 – col. 7, line 23); and determining a reference luminance for the pixel location from a second processing of said same region of pixel data and without using other pixel data (Acharya discloses that for Red and Blue pixels perform a processing that for example if the raw pixel is a Blue pixel, to calculate the missing Red would first calculate the median of the Green pixels surrounding said Blue pixel (The Examiner is reading the median of the Green pixels surrounding said Blue pixel as the Reference luminance for the pixel location) then, would calculate the median of the Green pixels around the Red pixels that surrounds said blue pixel to compare the difference between the median of the Green pixels surrounding the Blue pixel with the median of the Green pixels around the Red pixels surrounding the Blue pixel to select as the missing Red value the median of the of the Green pixels around the Red pixels surrounding said blue pixel that is closest compared to the median of the Green pixels surrounding the Blue pixel; col. 6, line 34 – col. 7, line 23) (See also col. 3, lines 20 – col. 5, line 46; col. 6, line 34 – col. 7, line 23).

Although Acharya discloses determine obtaining a reference luminance for the pixel location from a second processing of said same region of pixel data and without using other pixel data, Acharya does not explicitly disclose that said reference luminance is determined after respective interpolated color components for the pixel location are determined such that the reference luminance is determined using said

respective interpolated color components.

However, Sasaki et al. discloses a method for luminance noise filtering, comprising: inputting a region of pixel data from an image sensor (pixels of a region as shown in figs. 1A, 1B, 7A and 7B are input to interpolation filters 25-28 as shown in figs. 4 and 9); determining a first luminance ($Y_H$) from a first processing of said region of pixel data and without using other pixel data for a pixel location within the region (Sasaki et al. discloses obtaining the first luminance signal by using a high-pass filter; col. 7, lines 20-31); and determining a reference luminance for the pixel location from a second processing of said same region of pixel data and without using other pixel data (Sasaki et al. discloses converting the interpolated complementary colors into RGB colors and perform γ conversion followed by luminance conversion performed by color difference matrix 63 as shown in fig. 9, wherein the reference luminance ($Y_L$) is calculated and later said reference luminance ($Y_L$) is added to the first luminance ($Y_H$); see col. 12, line 17 - col. 14, line 32; col. 6, line 56 - col. 9, line 39; see also fig. 9), wherein the reference luminance ($Y_L$) is determined after respective interpolated color components for the pixel location are determined such that the reference luminance is determined using said respective interpolated color components (Note that the reference luminance is obtained after performing color interpolation for a pixel location as shown in fig. 9) (See col. 6, line 56 - col. 9, line 39; col. 12, line 17 - col. 14, line 32).

Therefore, taking the combined teaching of Acharya in view of Sasaki et al. as a whole, it would have been obvious to one of an ordinary skill in the art at the time the invention was made to apply the concept of obtaining a first luminance value and a

reference luminance value calculated with the color pixel values after being interpolated to adjust the luminance value of the image as taught in Sasaki et al. to modify the teaching of Acharya to have said reference luminance determined after respective interpolated color components for the pixel location are determined such that the reference luminance is determined using said respective interpolated color components. The motivation to do so would have been to improve the color reproducibility of the image and to prevent generation of a false color in the image as suggested by Sasaki et al. (Col. 2, lines 40-59; col. 24, lines 1-19).

**Regarding claim 2**, the combined teaching of Acharya in view of Sasaki et al. as discussed and analyzed in claim 1 further teaches that the second processing includes the steps of: determining said interpolated color components (Acharya, i.e. interpolating Green color components) for the pixel location from said region of pixel data (as discussed in claim 1, Acharya discloses that for Red and Blue pixels perform a processing that for example if the raw pixel is a Blue pixel, to calculate the missing Red would first interpolate the value of the Green pixel in that Blue pixel by calculating the median of the Green pixels surrounding said Blue pixel (The Examiner is reading the median of the Green pixels surrounding said Blue pixel as the Reference luminance for the pixel location) then, would calculate the median of the Green pixels around the Red pixels that surrounds said blue pixel to compare the difference between the median of the Green pixels surrounding the Blue pixel with the median of the Green pixels around the Red pixels surrounding the Blue pixel to select as the missing Red value the median of the of the Green pixels around the Red pixels surrounding said blue pixel that is

closest compared to the median of the Green pixels surrounding the Blue pixel; col. 6, line 34 – col. 7, line 23. Furthermore, Sasaki et al. discloses determining said interpolated color components for the pixel location from said region of pixel data (Sasaki et al. discloses converting the interpolated complementary colors into RGB colors and perform γ conversion followed by luminance conversion performed by color difference matrix 63 as shown in fig. 9, wherein the reference luminance ($Y_L$) is calculated and later said reference luminance ($Y_L$) is added to the first luminance ($Y_H$); see col. 12, line 17 - col. 14, line 32; col. 6, line 56 - col. 9, line 39; see also fig. 9)); and determining the reference luminance for the pixel location from the interpolated color components (In Acharya, the Examiner is reading the median of the Green pixels surrounding said Blue pixel as the Reference luminance for the pixel location; col. 6, line 34 – col. 7, line 23. Sasaki et al. discloses determining the reference luminance ($Y_L$) for the pixel location from the interpolated color components; see col. 12, line 17 - col. 14, line 32; col. 6, line 56 - col. 9, line 39; see also fig. 9). Grounds for rejecting claim 1 apply here.

**Regarding claim 13**, claim 13 recites the apparatus claim for the method in claim 1. Therefore, limitations can be found in claim 1 since the combined teaching of Acharya in view of Sasaki et al. teaches the apparatus performing the method in claim 1 (See Acharya, fig. 3; see also Sasaki et al., fig. 9).

**Regarding claim 14**, limitations can be found in claim 2.

**Regarding claim 25**, limitations can be found in claim 1.

**Regarding claim 26**, limitations can be found in claim 2.

**6. Claims 4, 10, 16, 22 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Acharya, US Patent 6,269,181 B1 in view of Sasaki et al. 5,581,298 and further in view of Laney, US Patent 5,668,932.**

**Regarding claim 4**, Acharya discloses selecting a final luminance value depending on an adaptive luminance, however, the combined teaching of Acharya in view of Sasaki et al. fails to teach selecting between the virtually filtered luminance and the reference luminance as a final luminance of the pixel location depending on an adaptive luminance.

However, Laney teaches the concept of determining the luminance of a particular pixel (the Examiner is reading this as the Reference luminance of the pixel) that belongs to a region having a plurality of pixels and comparing a calculated average luminance of the region of pixels (the Examiner is reading the calculated average luminance of the region of pixels as the virtually filtered luminance of the region of pixel data) to the determined luminance of said particular pixel to adjust the luminance of the pixel when it's luminance is brighter of dimmer compared to the average luminance of the region (this suggest the use of selecting the luminance of the pixel based on an adaptive luminance since the luminance is selected based on a comparison between the calculated luminance of the pixel and the calculated luminance of the region) (See figs. 2-4; col. 1, line 31 – col. 2, line 24).

Therefore, taking the combined teaching of Acharya in view of Sasaki et al. and further in view of Laney as a whole, it would have been obvious to one of an ordinary skill in the art at the time the invention was made to modify Acharya and Sasaki et al. by

selecting between the virtually filtered luminance and the reference luminance as a final luminance of the pixel location depending on an adaptive luminance. The motivation to do so would have been to preserve the overall original luminance of the image in all the pixels thus improving the effectiveness of the system by performing corrections tailored for different images by calculating said correction for every image.

**Regarding claim 10**, the combined teaching of Acharya in view of Sasaki et al. and further in view of Laney as discussed and analyzed in claim 4 teaches that the adaptive luminance is indicated by the reference luminance (Acharya discloses using the reference luminance (the calculated green luminance based on the median luminance of the green pixels surrounding the Blue color to determine the luminance value based on a comparison with the median luminance of the green colors around the red pixels surrounding said blue pixel; col. 3, lines 20 – col. 5, line 46; col. 6, line 34 – col. 7, line 23).

**Regarding claim 16**, limitations can be found in claim 4.

**Regarding claim 22**, limitations can be found in claim 10.

**Regarding claim 27**, limitations can be found in claim 4.

**7. Claims 5, 7, 11, 17, 19 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Acharya, US Patent 6,269,181 B1 and Sasaki et al. 5,581,298 in view of Laney, US Patent 5,668,932 and further in view of Gindele, US Patent 6,937,772 B2.**

**Regarding claim 5**, the combined teaching of Acharya in view of Sasaki et al. and further in view of Laney fails to teach determining a threshold value from the adaptive luminance; selecting the virtually filtered luminance if an absolute of a difference between the virtually filtered luminance and the reference luminance is less than or equal to the threshold value; and selecting the reference luminance if the absolute of the difference between the virtually filtered luminance and the reference luminance is greater than the threshold value.

However, Gindele teaches a method for removing noise form digital images wherein a pixel of interest (reference luminance) and a local neighborhood of pixels (virtually filtered pixels) located about the pixel of interest are identified; calculating a difference pixel value for pixels in the local neighborhood of pixels based on the absolute difference between the value of the pixel of interest and the individual values of pixels included in the local neighborhood of pixels; using the absolute difference values to calculate a noise reduced pixel value; replacing the value of the pixel of interest with the noise reduced pixel value; wherein a comparison is made between the absolute difference and a threshold value (being a function of the values of pixels included in the local neighborhood) and using only the values of pixels included in the local neighborhood for which the corresponding absolute difference pixel values are less than

the threshold value to calculate the noise reduced pixel value (See col. 9, line 44 – col. 11, line 26).

Therefore, taking the combined teaching of Acharya and Sasaki et al. in view of Laney and further in view of Gindele as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Acharya, Sasaki et al. and Laney by determining a threshold value from the adaptive luminance; selecting the virtually filtered luminance if an absolute of a difference between the virtually filtered luminance and the reference luminance is less than or equal to the threshold value; and selecting the reference luminance if the absolute of the difference between the virtually filtered luminance and the reference luminance is greater than the threshold value. The motivation to do would have been to perform more efficiently noise reduction in digital images as suggested by Gindele (Col. 2, line 66 – col. 3, line 4).

**Regarding claim 7**, the combined teaching of Acharya and Sasaki et al. in view of Laney and further in view of Gindele as discussed and analyzed in claim 5 teaches that the adaptive luminance is determined from an average reference luminance for a predetermined region of pixel data (Laney discloses using the average luminance of the region around a predetermined pixel to be adjusted; col. 1, line 31 – col. 2, line 24).

**Regarding claim 11**, the combined teaching of Acharya and Sasaki et al. in view of Laney and further in view of Gindele as discussed and analyzed in claim 5 teaches that the virtually filtered luminance is determined by averaging a respective pixel data multiplied with a respective weighting coefficient for each pixel location of the region (Gindele discloses calculating the average luminance of the local neighborhood of

pixels (virtually filtered pixels) located about the pixel of interest and correcting the pixels using a weighting factor to correct the pixel (Col. 9, line 44 – col. 11, line 41). This teaches that the virtually filtered luminance is determined by averaging a respective pixel data multiplied with a respective weighting coefficient for each pixel location of the region). Grounds for rejecting claim 5 apply here.

**Regarding claim 17** limitations can be found in claim 5.

**Regarding claim 19**, limitations can be found in claim 7.

**Regarding claim 23**, limitations can be found in claim 11.

**8. Claims 9 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Acharya, US Patent 6,269,181 B1 and Sasaki et al. 5,581,298 in view of Laney, US Patent 5,668,932 and further in view of Koyanagi, US Patent 5,880,782.**

**Regarding claim 9**, the combined teaching of Acharya in view of Sasaki et al. and further in view of Laney fails to teach that the adaptive luminance is indicated by an auto exposure gain for the image sensor.

However, indicating an adaptive luminance by an auto exposure gain of the image sensor is well known in the art as taught by Koyanagi. Koyanagi teaches a camera (Fig. 1) that perform luminance correction based indicated by a gain correction which is determined using an average luminance of the image and a reference luminance (Note in fig. 1 that the adaptive luminance depends from the gain value from the exposure controller 16, since the gain form the exposure controller is feedback to

the image signal that is being processed by blocks 6, 7, 12, 13 and 14) (Col. 4, lines 6+; col. 7, line 13 – col. 9, line 20).

Therefore, taking the combined teaching of Acharya and Sasaki et al. in view of Laney and further in view of Koyanagi as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Acharya, Sasaki et al. and Laney by having the adaptive luminance indicated by an auto exposure gain for the image sensor. The motivation to do so would have been to obtain a proper luminance and reference values to expose better the imaging device as suggested by Koyanagi (Col. 10, lines 40-51).

**Regarding claim 21**, limitations can be found in claim 9.

**9. Claims 12 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Acharya, US Patent 6,269,181 B1 and Sasaki et al. 5,581,298 in view of Laney, US Patent 5,668,932 and further in view of Raffy, US Patent 7,139,022 B1.**

**Regarding claim 12**, the combined teaching of Acharya in view of Sasaki et al. and further in view of Laney fails to teach that the image sensor is part of a hand-held image pick-up device having minimized line memory capacity.

However, processing luminance in a handheld image pick-up device having minimized line memory capacity is notoriously well known in the art as taught by Raffy. Raffy teaches a digital camera (See fig. 1) comprising an image sensor (Fig. 1: 22) to capture an image of an object, said camera further comprises a line buffer (Fig. 1: 30) to store seven lines of pixels to further perform luminance processing to the stored pixel

data in the line buffer (Col. 5, line 35 – col. 6, line 44; col. 13, lines 16-30). Raffy also discloses that the size of the buffer 30 would depend of the applications so it can be smaller or larger (Col. 5, lines 46-51; col. 13, lines 16-30).

Therefore, taking the combined teaching of Acharya and Sasaki et al. in view of Laney and further in view of Raffy as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Acharya, Sasaki et al. and Laney by having the image sensor is part of a hand-held image pick-up device having minimized line memory capacity. The motivation to do so would have been to reduce the size and cost of making the apparatus while maintaining the quality of the images as suggested by Raffy (Col. 1, lines 19-32; col. 5, lines 46-51; col. 13, lines 16-30).

**Regarding claim 24,** limitations can be found in claim 12.

***Allowable Subject Matter***

10. **Claims 6, 8, 18 and 20** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter:

**Regarding claim 6**, the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest that the adaptive luminance is

determined from an overall brightness of a previous image, including all of the limitations of claims 1, 4 and 5.

**Regarding claim 8**, the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest that the threshold value is greater when the adaptive luminance is lower, including all of the limitations of claims 1, 4 and 5.

**Regarding claim 18**, the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest that the adaptive luminance is determined from an overall brightness of a previous image including all of the limitations of claims 13, 16 and 17.

**Regarding claim 20**, the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest that the threshold value is greater when the adaptive luminance is lower, including all of the limitations of claims 13, 16 and 17.

***Conclusion***

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Contact***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nelson D. Hernández Hernández whose telephone number is (571)272-7311. The examiner can normally be reached on 9:00 A.M. to 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nelson D. Hernández Hernández
Examiner
Art Unit 2622

NDHH
August 19, 2008

/Lin Ye/
Supervisory Patent Examiner, Art Unit 2622